COUNT ADAPTIVE NOISE REDUCTION METHOD OF X-RAY IMAGES

Abstract

A method of adaptively reducing noise within an x-ray image includes receiving raw data (R) representing a detected x-ray signal from an object. A counts-based modulation mask (M_{cb}) is generated in response to the raw data (R). In one embodiment, a structure dependent noise filtered image ($I_{blended}$) is generated in response to the raw data. A noise-reduced image (I_F) is generated in response to the counts-based modulation mask (M_{cb}) and the structure dependent noise filtered image ($I_{blended}$). In another embodiment, a structure gradient mask (M_{cs}) is generated in response to the raw data (R). The noise-reduced image (I_F) is generated in response to the counts-based modulation mask (M_{cb}) and the structure gradient mask (M_{cs}).